

Claims

1. A method for providing location service information related to a mobile station (MS) in a mobile communications system supporting connections of a first type (L5) and a second type (L3, L7), the method comprising the steps of:

5 receiving a request (20, 301) from a requesting entity;
 retrieving (22, 308) said location service information related to said mobile station (MS); and
 providing a response (28, 311) to said request;
 c h a r a c t e r i z e d b y
10 determining (21) a preferred type of connection for said retrieving step on the
 basis of a first set of predetermined criteria (304, 306); and
 performing, in said retrieving step, at least a first attempt (22) via said preferred type of connection.

2. A method according to claim 1, c h a r a c t e r i z e d in that said first set of
15 predetermined criteria comprises checking (304) whether the mobile station (MS) currently has an active connection via at least one of said types of connection.

3. A method according to claim 2, c h a r a c t e r i z e d in that said checking is based on examining said request (301).

4. A method according to any one of the preceding claims, c h a r a c t e r i z e d
20 i z e d in that, if said first attempt results in a failure, a second set of predetermined criteria comprises the reason for the failure, and said retrieving step comprises per-

forming a second attempt (26) via the remaining type of connection in response to fulfilment of said second set of predetermined criteria.

5. A method according to claim 4, characterized in that said second set of predetermined criteria is fulfilled if:

5 said first attempt fails but the reason for the failure is not "service not allowed";
and

 said second attempt via the remaining type of connection has not been unsuccessfully performed earlier.

6. A method according to any one of the preceding claims, characterized
10 in that said first type of connection (L5) is circuit-switched and said second type of connection (L3, L7) is packet-switched.

7. A method according to claim 6, characterized in that, if said mobile station (MS) is having an ongoing call, said preferred type of connection is circuit-switched (L5), otherwise it is packet-switched (L3, L7).

15 8. A method according to claim 6 or 7, characterized by establishing circuit-switched communications for the mobile station (MS) if said packet-switched communications are not established.

9. A method according to any one of claims 6 to 8, characterized by establishing at least one implicit Packet Data Protocol, or PDP, context.

10. A method according to claim 9, characterized in that said step of establishing the PDP context comprises allocating a predefined Network layer Service Access Point Identifier, or NSAPI, value.

11. A method according to claim 9 or 10, characterized in that said at
5 least one implicit PDP context is established between the mobile station (MS) and the support node (SGSN).

12. A method according to any one of claims 9 to 11, characterized in
that said at least one implicit PDP context is established between the support node
(SGSN) and a Serving Mobile Location Centre (SMLC) currently serving the mobile
10 station (MS).

13. A method according to any one of claims 9 to 11, characterized in
that at least one explicit PDP context is established between the support node (SGSN)
and a Serving Mobile Location Centre (SMLC) currently serving the mobile station
(MS).

14. A method according to any one of the preceding claims, characterized
15 in that said request (301) is received by a Gateway Mobile Location Centre
(GMLC), which retrieves said location service information via a Mobile Services
Switching Centre (VMSC), which in turn retrieves said location service information
via a Serving Mobile Location Centre (SMLC):

20 directly (307a) if a circuit-switched connection has been established for said
mobile station; and otherwise

indirectly (305b, 307b) via a Serving GPRS Support Node (SGSN).

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15. A method according to claim 14, characterized in that said Gateway Mobile Location Centre (GMLC) sends to said Mobile Services Switching Centre (VMSC) the address of said Serving GPRS Support Node (SGSN).

16. An arrangement (GMLC, VMSC) for supporting location service information related to a mobile station (MS) in a mobile communications system supporting circuit-switched communications and packet-switched communications, the arrangement being adapted to:

receive a request (20, 301) from a requesting entity;

retrieve (22, 308) said location service information related to said mobile station (MS); and

provide a response (28, 311) to said request;

characterized in that said arrangement (GMLC, VMSC) is adapted to:

determine (21) a preferred type of connection for said retrieving on the basis of a first set of predetermined criteria (304, 306); and to perform at least a first attempt (22) via said preferred type of connection.

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